

What is claimed is:

1. A system for connecting a packet network with a circuit network comprising:
 - a module for receiving a packet-based signal and transcoding the packet-
 - 5 based signal creating a transcoded packet-based signal;
 - a module for receiving the transcoded packet-based signal, reassembling the signal creating a circuit-based signal, performing echo cancellation and transmitting the circuit-based signal to the circuit network; and
 - a module for sending the transcoded packet-based signal to the module for
 - 10 receiving the transcoded packet-based signal.
2. A system for connecting a circuit network with a packet network comprising:
 - a module for receiving a circuit-based signal and performing echo
 - cancellation and packet adaptation, creating a packet-based signal;
 - 15 a module for receiving the packet-based signal and transcoding the packet-
 - based signal creating a transcoded packet-based signal and sending the transcoded packet-based signal to the packet network; and
 - a module for transmitting the packet-based signal to the module for receiving the packet-based signal.
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3. A system for connecting a circuit network with a packet network, the system comprising:
 - a packet switch fabric;
 - a circuit network server having a first port for sending and receiving circuit-
 - 25 based signals with the circuit network, the circuit network server having a first at
 - least one digital signal processor to perform packet adaptation and a second at
 - least one digital signal processor which subsequent to the packet adaptation performs signal processing and a second port for sending and receiving packet-
 - based signals having packets with the packet switch fabric; and
 - 30 a packet network server having a first port for sending and receiving packet-
 - based signals with the packet switch fabric and a second port for sending and

receiving packet-based signals with the packet network;

wherein the packet switch fabric is capable of transferring packet-based signals among the packet network server and the circuit network server, and among the circuit network server and a second circuit network server.

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4. A system according to claim 3 wherein, the signal processing performed on the second at least one digital signal processor is gateway signal processing.

5. A system according to claim 4 wherein, the gateway signal processing on the
10 second at least one digital signal processor of the circuit network server is transcoding.

6. A system according to claim 4 wherein, the gateway signal processing on the
15 second at least one digital signal processor of the circuit network server is echo cancellation.

7. A system according to claim 3 wherein, the packet switch fabric further
20 comprises a switch for switching among the packet network server and the circuit network server.

8. A system according to claim 3 wherein, the packet switch fabric is a switching module.

9. A system according to claim 3 wherein, the packet switch fabric is a packet
25 bus.

10. A system according to claim 3 wherein, the packet switch fabric is a cell bus.

11. A system according to claim 3 further comprising a signal processing server
30 having a port for sending and receiving packet-based signals with the packet switch fabric, the signal processing server having a digital signal processor for

performing signal processing on the packet-based signals;
wherein the packet switch fabric transfers packet-based signals to the signal processing server.

- 5 12. A system according to claim 11 wherein, the signal processing performed on the digital signal processor of the signal processing server is gateway signal processing.

- 10 13. A method for communicating a circuit-based signal as a packet-based signal, the method comprising:

- receiving a circuit-based signal into a circuit network server;
performing echo cancellation on the circuit-based signal;
performing packet adaptation on the circuit-based signal forming a packet-based signal;
15 transferring the packet-based signal to a packet switch fabric;
transferring the packet-based signal from the packet switch fabric to a signal processing server;
transcoding the packet-based signal creating a transcoded packet-based signal;
20 directing the transcoded packet-based signal from the signal processing server to the packet network server; and
sending the transcoded packet-based signal from the packet network server.

14. The method of claim 13 wherein, said step of directing comprises transferring
25 the transcoded packet-based signal from the signal processing server to the packet switch fabric and transferring the transcoded packet-based signal from the packet switch fabric to the packet network server.

15. A system for connecting a circuit network with a packet network, the system
30 comprising:
a packet switch fabric;

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a circuit network server having a first port for sending and receiving
circuit-based signals with the circuit network, the circuit network server having a
first at least one digital signal processor to perform packet adaptation and a
second at least one digital signal processor which subsequent to the packet
5 adaptation performs signal processing and a second port for sending and
receiving packet-based signals having packets with the packet switch fabric; and
a packet network server having a first port for sending and receiving
packet-based signals with the packet switch fabric and a second port for sending
and receiving packet-based signals with the packet network;
10 wherein the packet switch fabric is capable of transferring packet-based
signals among the packet network server and the circuit network server, and
among the packet network server and a second packet network server.

16. A system according to claim 15 wherein, the packet switch fabric is a
15 switching module.

17. A system according to claim 15 wherein, the packet switch fabric is a packet
bus.

20 18. A system according to claim 15 wherein, the packet switch fabric is a cell
bus.

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